Managing Fiscal Sustainability and Aging in Emerging Asia

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Abstract

The aftermath of the global economic and financial crisis of 2007-2008 underlined the importance of maintaining fiscal space and fiscal sustainability. Many Asian economies implemented fiscal stimulus policies during the crisis, and their fiscal conditions generally improved rapidly thereafter, and their overall government debt positions, aside from those of Japan and India, now appear strong. This reflects a number of supportive factors, including strong underlying growth, conservative fiscal management, and financial repression that keeps interest rates low. Nonetheless, there are a number of reasons to believe that conditions in emerging Asian economies will not always be so supportive. First, economic growth will tend to slow as countries reach higher income levels. Second, many Asian countries are aging fast, which will raise old-age-related spending dramatically, while tending to reduce economic dynamism. Third, financial repression is likely to diminish as financial markets develop, making debt management more challenging. The first objective of this paper is to identify long-term issues of fiscal sustainability risk for emerging Asian economies—such as aging and related upward pressures on social protection spending, contingent liabilities, reduction of financial repression, and the exposure of the domestic banking sector to sovereign debt. The second objective is to recommend policies to reduce these risks to sustainability, such as enhancing the efficiency of social insurance programs; improving the balance of revenues and expenditures; implementing more explicit fiscal rules and frameworks; and establishing stronger fiscal surveillance at the national and regional levels.

Keywords: Fiscal policy, Fiscal rules, Fiscal stability, Social protection expenditures, National pension, National health insurance, Population aging, Emerging Asian economies, Financial repression

JEL classification: H2, H51, H54, H55, H62, H63, J11
I. Introduction

Asian emerging economies weathered the global economic and financial crisis of 2007-2009 surprisingly well. Although many implemented large-scale fiscal stimulus programs, government debt levels remained relatively benign. This benign result appears to reflect a number of positive factors, including an absence of financial crises that required bank bailouts, strong initial conditions in terms of both fiscal balances and government debt levels, and high growth rates of GDP relative to interest rates, partly as a result of financial repression.

Nonetheless, there are a number of reasons to believe that conditions in emerging Asian economies will not always be so supportive. First, real growth rates will tend to slow as these economies achieve higher levels of income. Second, many Asian economies will face rapidly aging populations in coming decades, which will raise pension, healthcare, and other old-age-related spending dramatically, while tending to reduce economic dynamism. Third, suppression by the government of interest rates below their market-clearing level (financial repression) is likely to diminish as financial markets are liberalized and develop, leading to a narrowing gap between economic growth rates and bond yields that will make debt management more challenging.

The first objective of this paper is to identify long-term issues of fiscal sustainability risk for emerging Asian economies, focusing on the impact of population aging on social protection spending. The second objective is to recommend policies to reduce these risks to sustainability, including: enhancing the efficiency of social insurance programs; improving the balance of revenues and expenditures; implementing more explicit fiscal rules; and establishing stronger fiscal surveillance at the national and regional levels.

Section 2 of this paper reviews the fiscal situation in Asia, including the experiences during the Asian financial crisis of 1997-98 and the global economic and financial crisis, and current fiscal conditions. Section 3 provides a picture of social protection spending in emerging Asia, with an emphasis on social insurance programs, which are most affected by aging populations. Section 4 analyzes the outlook for social insurance spending in Asian emerging economies by 2030 in light of the rapid aging of some societies, and other issues such as contingent liabilities and the likelihood of reduced financial repression. Section 5 identifies policy guidelines, options and recommendations, while Section 6 presents
conclusions.

II. Current Fiscal Conditions in Asia

II-1. Review of recent experience

The Asian economic and financial crisis of 1997-1998 differed from other financial crises in Latin America, as excess private demand, not fiscal profligacy - and massive capital inflows that financed it - were the source of currency and banking crises in Indonesia, Republic of Korea, Malaysia and Thailand. Figure 1 shows the trend of fiscal balances from 1996, just before the crisis hit these economies. None of the four crisis-affected countries had a fiscal deficit in 1996. However, their fiscal deficits generally rose (except for the Republic of Korea) during the crisis period, reflecting a combination of: higher interest rates, cyclically weak domestic demand that depressed tax revenues, and banking sector recapitalization in the aftermath of banking sector crises (especially in Indonesia and Thailand). Thailand’s deficit worsened the most, reaching nearly 10% of GDP in 1999. However, fiscal balances were restored relatively quickly via export-led economic recoveries supported by continued global economic growth and currency depreciation. The Republic of Korea bounced back most quickly, restoring a fiscal surplus by 2000, and all the crisis countries except Malaysia achieved deficits of less than 1% of GDP or surpluses by 2006. As of 2012, only three countries had fiscal deficits of 4% or more of GDP - India, Malaysia and Viet Nam.

![Figure 1. General government fiscal balances in emerging Asia (% of GDP)](source: IMF World Economic Outlook Database, October 2013.)
Moreover, the increases in the ratios of government debt to GDP were also contained. Figure 2 shows that only Singapore’s debt ratio is well over 100% of GDP, but it also has sizable financial assets, so the net debt ratio is much lower, although figures are not available for this. Indonesia saw its government debt ratio rise to close to 100% of GDP in 2000, but the ratio has been falling steadily since then. The debt ratios of the other Asian crisis countries generally remained below 60% of GDP, the IMF’s normal guideline for debt sustainability. Only India consistently saw a debt ratio over 60% of GDP, and even that has been trending downward since 2005, reaching 66-67% in 2010-2012.

During the global financial crisis, a number of Asian countries implemented substantial fiscal easing policies to offset a sharp drop in import demand from advanced economies. However, the absence of domestic financial crises in those countries meant that the call on fiscal resources was more limited than in many developed economies and other economies that experienced banking crises. Moreover, prudent fiscal management after the Asian financial crisis provided most economies in the region (Japan was the major exception) with sufficient fiscal space to support such stimulus programs. Figure 1 shows that fiscal balances of emerging Asian economies all worsened substantially between 2007 and 2009, but, except for India, Malaysia and Taipei, China, they were contained in a fairly modest range of 1%-4% of GDP. Moreover, fiscal balances improved rapidly thereafter, with a relatively small accumulation of government debt. Again, with the exceptions of India and Singapore, Figure 2 shows that the gross debt-to-GDP ratios of all the economies rose only moderately, and stayed below 60% of GDP.

Figure 2. General government debt ratios in emerging Asia (% of GDP)

Source: IMF World Economic Outlook Database, October 2013.
II-2. Fiscal expenditures and revenues

This section describes the composition of expenditures and revenues and fiscal sustainability issues in emerging Asia.

Expenditures

Figure 3 shows the breakdown of central government expenditures of Asian economies as percentage of GDP. Japan has by far the highest share of GDP overall (38%), followed by Malaysia and the PRC. Taipei, China and Singapore have the lowest shares. Some developing economies—including India, Indonesia and the Philippines—have low capital expenditure shares such as investment in infrastructure. This is likely to exert a restraining influence on the growth potential of those countries. It should be a high priority to secure sources of funding for higher levels of infrastructure investment spending in those countries.

Expenditures on social security and welfare and on health tend to grow rapidly with income and population aging. Japan’s are by far the highest, about 25% of GDP, well over half of total central government expenditures. The second highest shares are held by the Republic of Korea and Hong Kong, China, but they are much lower, only about 5% of GDP. Shares for other economies range between 1% and 4%. Nonetheless, the aging trend in those economies is likely to continue and may in fact accelerate over the next few years, which will put additional pressure on government budgets.

Figure 3. Composition of central government expenditures by economy (% of GDP), 2012

Note: Soc. sec. & welf. = Social security and welfare. Japan’s social security and welfare expenditures are for general government. Data for Japan; Singapore; Taipei, China and Thailand, 2011; the Philippines, 2008; and Indonesia, 2004. Social security and welfare is generally defined as the sum of government final consumption expenditures, subsidies, social benefits other than social transfers in kind and other current transfers to other sectors other than general government. Source: ADB Statistical Database System
economies points to substantial increases in old-age-related spending in coming years, which will put a greater strain on government finances. This issue is discussed at greater length below.

Revenues

As expenditures tend to rise more than proportionately with income, adequate revenue sources must be generated to cover this. However, many developing countries have narrow revenue bases. Table 1 shows the breakdown of tax revenues for major Asian economies. The share of indirect taxes, i.e., value added taxes (VATs) or goods and services taxes (GST), ranges from 15% to 39% for Asian economies except the PRC (62%) and Hong Kong, China (8%). A greater reliance on indirect taxes (VAT or GST) could increase revenues in a relatively non-distorting way. Also, the share of total tax revenues as percentage of GDP is relatively low, ranging between 10% and 18%, even including Japan. This share of tax revenues is much lower than in the average for the OECD of 34%. This suggests that, over time, emerging Asian economies have plenty of scope to raise the share of tax revenues to cover the costs of expanded social protection coverage.

Table 1. Composition of tax revenue (% of GDP), 2011

<table>
<thead>
<tr>
<th>Economy</th>
<th>Taxes on goods and services</th>
<th>Taxes on income, profits and capital gains</th>
<th>Taxes on international trade</th>
<th>Other taxes</th>
<th>Tax revenue (% of GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRC</td>
<td>6.5</td>
<td>2.4</td>
<td>0.5</td>
<td>0.1</td>
<td>10.5</td>
</tr>
<tr>
<td>Hong Kong, China</td>
<td>1.1</td>
<td>5.5</td>
<td>0.1</td>
<td>1.8</td>
<td>14.2</td>
</tr>
<tr>
<td>India</td>
<td>2.5</td>
<td>5.1</td>
<td>1.5</td>
<td>0.0</td>
<td>10.4</td>
</tr>
<tr>
<td>Indonesia</td>
<td>3.5</td>
<td>4.2</td>
<td>0.5</td>
<td>0.3</td>
<td>11.8</td>
</tr>
<tr>
<td>Japan</td>
<td>3.5</td>
<td>4.2</td>
<td>0.2</td>
<td>0.5</td>
<td>9.8</td>
</tr>
<tr>
<td>Korea</td>
<td>3.9</td>
<td>4.7</td>
<td>0.6</td>
<td>1.2</td>
<td>15.6</td>
</tr>
<tr>
<td>Malaysia</td>
<td>2.4</td>
<td>8.4</td>
<td>0.3</td>
<td>0.7</td>
<td>16.1</td>
</tr>
<tr>
<td>Philippines</td>
<td>3.6</td>
<td>5.4</td>
<td>2.4</td>
<td>--</td>
<td>12.9</td>
</tr>
<tr>
<td>Singapore</td>
<td>3.5</td>
<td>4.7</td>
<td>--</td>
<td>2.4</td>
<td>13.8</td>
</tr>
<tr>
<td>Thailand</td>
<td>6.9</td>
<td>6.7</td>
<td>0.8</td>
<td>0.1</td>
<td>17.6</td>
</tr>
</tbody>
</table>

Note: PRC, 2010; Malaysia and Philippines, 2012.
II-3. Fiscal stability conditions

Fiscal stability conditions in most emerging Asian economies are regarded as generally benign. For example, Figure 4 from the International Monetary Fund (IMF)’s review of fiscal stability risks (IMF 2013) evaluates emerging Asia as having substantially lower risk than in Emerging Europe or Latin America.

The IMF’s recent debt stability analysis exercise also finds relatively benign conditions for emerging Asian economies (IMF 2012). Table 2 summarizes the degree of progress in fiscal consolidation in terms of the change in the cyclically adjusted primary balance (CAPB) needed to achieve a return of the government debt to GDP ratio to its 2011 level by 2030. The table shows that the PRC, Republic of Korea and the Philippines are expected to fully satisfy the criterion by 2013, while Malaysia is about half way there. There has been no progress or deterioration for India, Indonesia and Thailand. However, as noted above, the debt-to-GDP ratios for Indonesia and Thailand are not particularly high even if they are not declining significantly. Although India’s ratio is high, it is declining slowly.1

Table 3 summarizes relevant data for fiscal sustainability for Asian emerging economies using averages for the period 2011-2012. (Data for 2010 were not included, as GDP growth was exaggerated by the rebound from global financial crisis-induced declines in 2009.) These data also support the conclusion that fiscal sustainability conditions are generally benign in the region. One of the main determinants of debt sustainability conditions is the difference

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1 Adams, Ferrarini and Park (2010) found that emerging Asian economies generally maintained fiscal sustainability in the aftermath of the global financial crisis. See also Burnside (2005) for a general discussion.
between the growth rate of GDP and the average interest rate of government debt (in either real or nominal terms). If the interest rate is higher than the growth rate of GDP, the ratio of debt to GDP will tend to rise, while if less, it will tend to decline, for a given level of the primary balance.

The third column, which is the interest rate—growth differential (IRGD) is negative for all economies, i.e., nominal GDP grows faster than the natural growth rate of government debt, which means that the government debt/GDP ratio tends to decline. Second, primary
deficits are relatively small, with India’s being the largest (3.9% of GDP), followed by Malaysia and Viet Nam. Third, the ratio of overseas public debt to GDP is relatively small, except for Viet Nam. Taipei, China’s GDP growth rate was worryingly low, but has since rebounded somewhat.

Less positively, financial repression has contributed significantly to the benign conditions of public debt in emerging Asia, i.e., the negative IRGD. Figure 5 shows that the nominal GDP growth rate is substantially higher than the average interest cost of government debt in all emerging Asian economies. This factor exerts a powerful drag on the growth of debt relative to GDP. In other words, it is relatively easy for emerging Asian economies to contain government debt through economic growth. The gaps are particularly large in the PRC, India, Indonesia and Viet Nam. It is noteworthy that even Singapore has a large gap, even though it has a highly developed and open financial market. Another less positive factor supporting apparently low debt levels explicitly recorded in the balance sheet is reliance on unfunded contingent liabilities, which is discussed in section 4.2 below.

Figure 5. Nominal GDP growth rates and average government debt interest rates in emerging Asia, 2011-2012 average

* Figures for interest cost are net.
Source: IMF World Economic Outlook database, IMF Article IV reports.
III. Status of social protection spending in emerging Asia

This section describes the current status of social protection spending in emerging Asia.

III-1. Definition of social protection spending

“Social protection” comprises social assistance (sometimes used interchangeably with social welfare), social insurance (e.g., pensions, health insurance, unemployment insurance), and labor market programs (e.g., job training, public works programs). ADB defines social protection as a set of policies and programs designed to reduce poverty and vulnerability by promoting efficient markets, diminishing people’s exposure to risks, and enhancing their capacity to protect themselves against hazards and interruption or loss of income (ADB 2001).

Social protection normally does not include general spending for health and education systems. It does, however, include health insurance and expenditures to assist the poor and vulnerable to access education, health, and social services. Examples include school scholarships, free or reduced-cost health services (and healthcare subsidies) for the poor, and cash grants that are contingent on parents ensuring that their children attend classes, receive vaccinations, and go for primary healthcare check-ups.

Social protection expenditures

Figure 6 shows the major components of social protection spending for emerging Asian economies and Japan. There is a huge amount of variation, ranging from about 1% of GDP for a number of low-income countries to 19% of GDP for Japan. However, the gap between Japan and the rest of the region is large, as Uzbekistan, the country with the second-highest expenditure share, spends only 7% of GDP, followed by the Republic of Korea and Mongolia at 6% of GDP. For the poorest countries, social assistance tends to have the largest share, but, as income increases, the share of social insurance (mainly pensions and health insurance) tends to become largest.

These figures strongly suggest that emerging Asian economies underspend on social protection. Only Japan and Uzbekistan commit more than 10% of GDP to social protection. Asian countries spending between 10% and 5% include, in descending order, Mongolia, the Kyrgyz Republic, Republic of Korea, Georgia, Azerbaijan, and the PRC. By comparison, European Union Member States spend 29% of GDP on social protection (Eurostat 2013). The Asian countries that spend the most on social protection include a few that to some degree retain a socialist-era legacy of generous social programs. The PRC has in recent years substantially boosted social spending to further reduce poverty, provide the population with at least minimal health insurance coverage, and generally promote harmonious growth.
The ADB Social Protection Index

ADB’s Social Protection Index (SPI) was developed to assess the extent of coverage of social protection programs, and the depth of their impact. It is a unique database for Asian and Pacific economies. It allows an individual country to judge its efforts primarily on the basis of its own capacity to finance social protection and the need for social protection relevant to its own level of income.

The SPI divides total social protection expenditures by the total number of intended beneficiaries of all social protection programs. For assessment purposes, this ratio of expenditures is compared with poverty-line expenditures. In other words,

$$\text{SPI} = \frac{\text{social protection expenditures/intended beneficiaries}}{0.25 \times \text{GDP per capita}}$$

Note that 0.25xGDP per capita approximates the average poverty line in developing countries in Asia and the Pacific.

Formulation of the SPI eliminates the problem that expenditures are expressed in national currencies. It avoids the problem of using U.S. dollars on the basis of international PPP estimates. This is less effective in assessing national trends. The SPI is a relative indicator – its value is relative to the average income per capita in a country.

The Social Protection Index tends to rise both with income and the extent of aging of the population. Figure 7 shows that there is a strong correlation of the SPI with per capita income. However, there is a great deal of variation. For example, Singapore’s SPI is much lower than...
that of Japan, even though per capita income levels are similar. Also, some former socialist countries such as Uzbekistan have relatively high levels of social protection.

Figure 8 shows that there also is a correlation of the SPI with the old-age dependency ratio, i.e., the ratio of the population aged 65 and over to the working age population (age 15-64). Again, Japan has the highest level of the SPI, consistent with its relatively aged society, while Singapore’s SPI is much lower, in line with its younger population.

Figure 7. Social protection index rises with per capita income

Note: SPI is aggregate indicator of coverage of social protection programs
Source: ADB (2013)

Source: ADB (2013) and UN (2013).
III-2. Social insurance expenditures

The part of social protection spending most sensitive to population aging is social insurance, mainly health insurance and pensions. On average, 60% of social protection expenditures in Asia and the Pacific are on social insurance, and two-thirds of social insurance spending is on pensions, which has profound implications for fiscal sustainability as countries age. Aged persons tend to incur higher health-related spending, and of course only draw pensions after they reach retirement age. Figures 9 and 10 show that the share of social insurance spending in GDP rises significantly both in line with per capita GDP and the old-age dependency ratio. In both cases, Japan is at the high end of the distribution, while

Figure 9. Social insurance expenditures rise sharply with income levels, 2009

![Graph showing social insurance expenditures rise sharply with income levels, 2009](source: SPI Internet (http://spi.adb.org/spidmz/index.jsp) and CEIC Data Co.)

Figure 10. Social insurance expenditures also rise with old-age dependency ratio

![Graph showing social insurance expenditures also rise with old-age dependency ratio](source: ADB (2013) and UN (2013).)
Singapore’s relatively young population explains its much lower level of social insurance spending. The PRC, Thailand and Viet Nam also have relatively young populations, which largely explain their relatively lower levels of social insurance spending. The figure shows that social insurance spending in low- to middle-income countries - excluding those in Central and West Asia - lies between 1% and 5% of GDP, but that the level rises once per capita income exceeds $10,000.

In East Asia, although the Republic of Korea has the second highest old-age dependence ratio (15%), it is still much lower than Japan’s. Thus, its social insurance expenditures as a share of GDP are close to the cross-country average.

It is notable that social insurance coverage, i.e., the share of targeted individuals actually covered by social insurance, is relatively low in many emerging Asian economies. Figure 11 shows that only two major emerging economies—the Republic of Korea and Uzbekistan—have breadth (coverage) over 50%, and the Republic of Korea probably shouldn’t be considered to be an emerging economy. It is also striking that, for economies with per capita GDP below $10,000, there appears to be only a weak correlation between income and coverage. ADB believes that many emerging economies in Asia and the Pacific spend too little on social protection, and that even low-income economies can afford to achieve an acceptable level of social insurance coverage. This point is expanded on in the recommendations section below.

Figure 11. Social insurance coverage still very low in most of emerging Asia

Note: Breadth represents the proportion of intended beneficiaries who actually received the social protection benefits.

Source: ADB (2013) and CEIC Data Co.
IV. Aging populations and fiscal pressures

This section analyzes various potential pressures on fiscal balances of emerging Asian economies, including population aging, contingent liabilities and interest-rate repression.

IV-1. Aging and social insurance spending

Perhaps the biggest long-term fiscal challenge faced by emerging Asian economies is the aging of their populations, which, as shown above, will tend to lead to much higher levels of old-age-related spending, especially for health insurance and pension benefits. This rapid aging trend reflects a number of factors, including the rapid increase in life expectancy as a result mainly of improvements in public health and the sharp fall in fertility rates in response to greater economic opportunities for women and higher costs of raising children. The IMF (2010, 2011) estimates that many emerging economy governments will face large increases in public spending on pensions and health care services (an average increase of 7.0 percentage points of GDP between 2010 and 2050) due to aging populations.

Men tend to benefit from social insurance more than women in developing Asia. This is because more women than men work in the informal sector where contributory pension systems are largely absent. Further, women often take time out of the labor market to take care of children or aging relatives, thereby reducing their contributions to formal schemes.

Figure 12 shows the rapid increase in the ratio of the aged population (age 65 and over) relative to the working-age population (age 15-64) in much of the region. Japan’s ratio already hit 35% in 2010. By 2030, Hong Kong, China; Republic of Korea; Singapore; and Taipei, China will have hit or exceed the same level. By 2040, the PRC and Thailand will also reach this level. In contrast, the aging trends in India, Indonesia, Malaysia and the Philippines are relatively subdued.

The aging process largely tracks the progress of growth of per capita income. This is important, because, as noted above, both the level of social insurance expenditures as a ratio of GDP and their coverage tend to increase with per capita income. Figure 13 shows the ratio of forecast 2030 per capita GDP to actual 2010 per capita GDP, indicating that substantial increases are expected across Asia by 2030.

This evidence suggests that the combined effects of higher incomes and population aging could lead to a rapid rise in social protection spending in Asian economies. We have estimated an equation for the share of social insurance expenditures in GDP as a function of per capita GDP (in constant 2005 US dollars) and the old-age dependency ratio, plus a dummy variable for current and former socialist countries. The results are summarized in Table 4. The coefficients for both per capita GDP and the old-age dependency ratio are significant at the

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2 Social insurance spending includes categories of government spending covered by insurance premiums, mainly national pensions and health insurance. We focus on social insurance spending, since its levels are most closely associated with aging.
Figure 12. Rapid rise in the ratio of the aged to the working-age population (%)

Note: The ratio of the aged to the working-age population is defined as the ratio of population aged 65 and over to population aged 15-64.


Figure 13. Rising real per capita GDP also contributes to rising benefit levels

Source: Internal ADB estimates in ADB-ADBI (forthcoming)
5% level and have the expected signs, i.e., increases in both tend to raise the share of social insurance expenditures in GDP. The socialist dummy is not quite significant at the 10% level, but it was significant in other specifications not shown, so we have included it here.

Table 4: Determinants of social insurance expenditures (% of GDP)

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>t-statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-7.85***</td>
<td>-3.28</td>
<td>0.003</td>
</tr>
<tr>
<td>Old-age dependency</td>
<td>0.36**</td>
<td>2.72</td>
<td>0.011</td>
</tr>
<tr>
<td>Log of Per capita GDP</td>
<td>1.83**</td>
<td>2.13</td>
<td>0.042</td>
</tr>
<tr>
<td>Socialist Dummy</td>
<td>1.76</td>
<td>1.62</td>
<td>0.116</td>
</tr>
<tr>
<td>Number of observations</td>
<td></td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>F(2, 29)</td>
<td></td>
<td>14.98</td>
<td></td>
</tr>
<tr>
<td>Prob &gt; F</td>
<td></td>
<td>0.0000</td>
<td></td>
</tr>
<tr>
<td>R-squared</td>
<td></td>
<td>0.6915</td>
<td></td>
</tr>
</tbody>
</table>

Note: (1) Estimated by OLS with robust standard errors. (2) Coefficient estimates marked with three, two and one asterisks are significant at the 1%, 5% and 10% levels, respectively.

Source: Authors’ estimates.

Figure 14 shows the comparison of actual and fitted values for the ratio of social insurance spending to GDP based on the equation in Table 4. Fitted values for most East Asian countries are fairly close to the actual values, i.e., they lie close to the 45-degree line. The main outliers are Mongolia and a number of Central Asian countries. The equation results clearly show why the social insurance ratios for Singapore and the Republic of Korea are still much lower than Japan’s.

Figure 14. Social insurance spending as % of GDP: Actual vs. fitted values

Source: ADB (2013) and authors’ estimates.
Using the regression equation reported in Table 4, we have estimated projected values for the share of social insurance expenditures in GDP in 2030. Forecasts of per capita GDP are taken from unpublished ADB projections (ADB-ADBI forthcoming), while forecasts for the old-age dependency ratio are taken from the UN projections shown in Figure 5. The projected values of social insurance expenditures are plotted in Figure 15, where the horizontal and the vertical axes show, respectively, the actual values in 2010 and the projected values in 2030. The vertical gap relative to the diagonal 45-degree line indicates the difference of the projected value in 2030 from the actual value in 2010. For East Asian and Southeast Asian economies, the largest projected increases are seen in Korea (7.9 percentage points), Singapore (6.9 percentage points), Thailand (6.4 percentage points), Japan (6.3 percentage points) and the PRC (5.2 percentage points). This is not surprising, given the rapid aging that is projected for those economies.3

These projected increases in social insurance spending are substantial. This underlines the need for these economies to adopt clear strategies to raise revenues and control old-age related expenditures. Key policy recommendations to address these fiscal pressures are in Section 5 below.

Figure 15. Social insurance spending as % of GDP: Projections for 2030

Source: ADB (2013) and authors’ estimates.

3 The results for Hong Kong, China and Taipei, China are presumably similar for the same reason, but equivalent data on social insurance spending for those economies were not available.
IV-2. Contingent liabilities

As noted above, emerging Asian economies generally have comfortably low ratios of government debt to GDP, but one reason for this is their reliance on unfunded contingent liabilities. The PRC is a notable example. Table 5 shows that, although total government debt, including that of the central government, local government and the Ministry of Railways, amounts to only 50% of GDP, various contingent liabilities raise the potential total to well over twice that, or 116% of GDP. Some of the largest potential liabilities include those of state-owned commercial banks, state-owned policy bank bonds, liabilities of the People’s Bank of China, and the debts of local investment companies that are responsible for investment activity by local governments. Moreover, the table does not include unfunded pension liabilities of the government, since their size is difficult to estimate, as they depend on many future developments (Hemming 2012).

Contingent liabilities can pose a number of risks to fiscal sustainability. If growth slows, then the viability of infrastructure investment conducted by local governments may be in doubt and non-performing loans (NPLs) and other liabilities are likely to rise. If they increase to an extent that leads to a financial crisis, the government may have to inject capital into the financial sector. If the real interest rate rises, this may also impose greater burdens on investment companies, also increasing the risks of rising NPLs and the need for recapitalization.

Table 5. Estimate of PRC contingent liabilities (% of GDP), 2012

<table>
<thead>
<tr>
<th>Category</th>
<th>% of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total government debt</td>
<td>50.0</td>
</tr>
<tr>
<td>Official government debt</td>
<td>26.1</td>
</tr>
<tr>
<td>Local government debt</td>
<td>20.1</td>
</tr>
<tr>
<td>Ministry of Railways liabilities</td>
<td>3.8</td>
</tr>
<tr>
<td>Total contingent liabilities</td>
<td>66.1</td>
</tr>
<tr>
<td>Commercial bank NPLs</td>
<td>4.0</td>
</tr>
<tr>
<td>Asset management company bonds</td>
<td>2.9</td>
</tr>
<tr>
<td>Policy bank bonds</td>
<td>13.3</td>
</tr>
<tr>
<td>PBOC bonds</td>
<td>12.4</td>
</tr>
<tr>
<td>Local investment company debt</td>
<td>33.5</td>
</tr>
<tr>
<td>Total government liabilities, including contingent liabilities</td>
<td>116.1</td>
</tr>
</tbody>
</table>

Note: Data for total government debt from the IMF and PRC official sources; non-performing loan (NPL) data from the China Banking Regulatory Commission; PBOC bonds from the People’s Bank of China; others are private estimates. PBOC means People’s Bank of China. Estimates for contingent liabilities are for 2009.

Source: Based on IMF (2013b) and Hemming (2012)
Potential diminution of financial repression

As shown in Figure 5 above, a large negative gap between the bond interest rate and the growth rate of GDP (negative IRGD) suggests a high degree of financial repression in the government bond market. Escolano, Shabunina and Woo (2011) show that, even though the IRGD for EMEs is typically negative, as economies mature and capital markets become liberalized, the IRGD tends to become positive. If this happens, achievement of a primary surplus is necessary to stabilize the debt ratio. Therefore, debt sustainability is likely to become more difficult as emerging Asian economies mature. A narrowing of the interest rate-growth rate gap will make it more difficult for governments to contain the debt-to-GDP ratio through reliance on economic growth alone, putting a greater burden on revenue and expenditure adjustment in the primary balance to maintain debt sustainability.

This suggests another route—in addition to the route where rising income levels lead to greater spending on social sector protection—by which rising incomes may result in a greater threat to fiscal sustainability by leading to higher interest rates. Normalization of the very low interest rates in developed economies could also put upward pressure on interest rates of emerging economies.

Moreover, high holdings of government bonds by the banking sector could increase the risk of the emergence of a “doom loop” of a sovereign debt and banking crisis, as was seen in a number of southern European countries during the Euro zone sovereign debt and banking crisis. In other words, a fall in the value of sovereign debt leads to large losses in the banking sector, which forces banks to sell more sovereign debt, setting a vicious circle to work. Table 6 shows that banks hold high shares of government debt in a number of Asian economies, including the PRC (highest of all at 77%), Indonesia, Japan and Malaysia. These countries

Table 6. Share of government bonds held by investors in Asia (%), 2013

<table>
<thead>
<tr>
<th>Economy</th>
<th>Banks</th>
<th>Other domestic financial institutions</th>
<th>Government</th>
<th>Central banks</th>
<th>Foreign holdings</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRC</td>
<td>77.3</td>
<td>10.7</td>
<td>0.0</td>
<td>0.0</td>
<td>--</td>
<td>17.1</td>
</tr>
<tr>
<td>Indonesia</td>
<td>37.1</td>
<td>17.8</td>
<td>--</td>
<td>2.7</td>
<td>31.2</td>
<td>42.6</td>
</tr>
<tr>
<td>Japan</td>
<td>34.4</td>
<td>27.8</td>
<td>8.7</td>
<td>17.4</td>
<td>8.0</td>
<td>16.7</td>
</tr>
<tr>
<td>Korea</td>
<td>17.9</td>
<td>48.1</td>
<td>20.5</td>
<td>2.5</td>
<td>9.5</td>
<td>31.8</td>
</tr>
<tr>
<td>Malaysia</td>
<td>31.9</td>
<td>69.9</td>
<td>1.4</td>
<td>0.5</td>
<td>28.2</td>
<td>28.2</td>
</tr>
<tr>
<td>Thailand</td>
<td>13.0</td>
<td>51.7</td>
<td>1.3</td>
<td>7.0</td>
<td>17.0</td>
<td>10.0</td>
</tr>
</tbody>
</table>

Notes: The category “other domestic financial institutions” may also include contractual savings institutions, such as insurance, pension and other funds institutions. Data for end-September 2013.

face the greatest risk of a “doom loop” cycle developing, and therefore need to strengthen frameworks for fiscal sustainability and diversify the holders of government debt.

V. Social Protection Expenditure Trend and Fiscal Sustainability

As related earlier, social protection expenditures rise with a country’s income and average age. The inexorable movement toward more comprehensive – and more expensive - social protection programs has been reinforced by recent international declarations in support of expanded health and social protection coverage. In this context, emerging Asian economies will need to strengthen rule-enforced fiscal discipline to maintain fiscal sustainability. Yet it is important to note that richer countries have shown that greater social protection spending can be accommodated in the public budget if countries consider fiscal sustainability in shaping their social protection systems. This section describes policy recommendations that will help enable countries to expand social protection in a fiscally responsible way.

V-1. Affordability of Social Protection

We believe that the cost of providing a basic level of social protection is feasible even for poor countries. Hagemejer (2009:89) argues that a basic “social protection benefit package is within a reach of even poorest countries while making it affordable requires political will followed by rationalization of current spending programs, reallocations of domestic resources and donor aid, as well as policies and measures creating new fiscal space.”

Hagemejer (2009) assesses that to provide a social security package that would meet the most basic needs of the population would, through the year 2030, cost as a percent of GDP no more than 6% in Bangladesh, less than 4% in India, just over 4% in Pakistan and Viet Nam, and around 8% in Nepal. He concludes that “low-income countries not only should but also can have social security systems that provide a basic package of health service to everybody, basic cash benefits to the elderly and families with children, and social assistance to a proportion of the unemployed. Even if a basic social protection package cannot be implemented at once, a sequential approach can generate immediate benefits in terms of poverty reduction, pro-poor growth and social development” (Hagemejer 2009:102).

V-2. What Governments Can Do to Ensure Fiscal Sustainability of Social Protection Spending

There are many things that governments can do to promote inclusive growth (which is

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5 Adams, Ferrarini and Park (2010) also argue that Asian economies should adopt strong fiscal policy frameworks, and resist, to the extent possible, the temptation to shift toward a more activist philosophy for fiscal policy interventions than previously.
underpinned by social protection), while at the same time maintaining fiscal soundness. In particular, governments can increase spending in the social sectors and on social assistance, increase property taxes, and improve the collection of VAT and personal income tax (ADB 2014). For example, tax revenue in the PRC represents just 22 percent of GDP, compared to 34 percent in OECD member countries. The country could boost such revenue by broadening the tax base, introducing new fiscal measures, and improving tax compliance and enforcement (Nakao 2014).

Reduce costs of social insurance programs

Despite the general need to expand the scope of social protection coverage, benefits and premiums may need to be adjusted to maintain sustainability in the face of aging populations. Economies facing sharp increases in aging and social protection expenditures need to take a number of steps, including:

- Introducing obligatory premium payments on pension and health insurance and increasing premiums;
- Implementing means testing for pension and healthcare benefits;
- Taxing benefits (if this is not done already);
- Shifting from defined benefit plans to defined contribution plans for pension systems;
- Adjusting the replacement ratio and raising the retirement age; and
- Containing health and medical costs by requiring the beneficiaries to pay part of costs.

Improve efficiency of social protection administration and expenditures

Every developing Asian country can carry out an audit of its social protection programs, which across the region tend to be highly fragmented (adding to inefficiencies, and greater costs). For example, Alam (2013:3) notes that “Bangladesh has about 95 social protection schemes, which are fragmented across various sectors, geographical areas and ministers, as well as having overlapping objectives and beneficiaries.”

Health-related expenditures are particularly prone to waste and mismanagement. A World Health Organization (WHO) study finds that, “…while some countries lose more than others, most, if not all, fail to fully exploit the resources available, whether through poor executed procurement, irrational medicine use, misallocated and mismanaged human and technical resources or fragmented financing and administration” (WHO 2010:61). According to the report, the ten leading causes of health system inefficiency are as follows (WHO 2010:63):

1. Underuse of generics and higher-than-necessary prices for medicines
2. Use of substandard and counterfeit medicines
3. Inappropriate and ineffective use of medicines
4. Overuse or supply of health services and equipment
5. Inappropriate or costly mix of health workers and unmotivated workers
6. Inappropriate hospital admissions and length of stay
7. Inappropriate hospital size
8. Medical errors and suboptimal quality of care
9. Waste, corruption, and fraud
10. Inefficient mix/inappropriate level of health care interventions

Use technology to improve overall efficiency of social insurance and general tax collection

Technology can also be leveraged to enhance the efficiency of social insurance administration and tax collection in Asia. “ICT improves every aspect of tax administration: taxpayer services, tax audit, tax collection, and other internal management processes. ICT benefits tax administration by improving the performance of tax administration bodies, reducing tax administration costs, reducing taxpayers’ compliance costs, and enhancing interaction between taxpayers and tax administration bodies. These four benefits are interrelated. From the perspective of tax administration bodies, a well-established ICT system supported by good ICT-based media expedites the collection of information from taxpayers and other government institutions. Once within the tax administration body, the collected information can be used efficiently for the various tax administration functions such as taxpayer management, audit, and arrears collection. Electronic tax filing systems are the most visible of ICT-based taxpayer services.” (ADB 2014:82).

Establishment of fiscal rules

A number of Asian economies have established fiscal rules as a tool to maintain fiscal discipline. The nature of these rules is summarized in Table 7. It is not always easy for countries to follow their rules, however. Of the four countries in Table 7, only Hong Kong, China has generally been successful in keeping to the rules, reflecting its generally strong fiscal conditions and low levels of expenditures. An important aspect of fiscal management is the coordination of borrowing between national and subnational levels within an overall framework. This is particularly relevant for infrastructure projects, as is discussed in Liu and Padrelli (2012), for example.
Indonesia and Thailand have also established debt management offices to increase the efficiency of their fund raising activities. The objectives of these offices are summarized in Table 8, and can be seen primarily as ways to reduce the cost of government debt. However, they have only been established recently, and it is unclear to what extent they can actually contribute to lowering the amount of government debt.

Strengthening of fiscal surveillance can also contribute to fiscal sustainability. At the national level, this can be done by the finance ministry, central bank and financial supervisors. At the regional level, the ASEAN+3 Macroeconomic Research Office (AMRO) can also play a role. Development of regional guidelines for sustainability conditions could contribute to increasing pressure on governments to maintain responsible fiscal policies.

### Table 7. Elements of fiscal rules in Asia

<table>
<thead>
<tr>
<th>Economy</th>
<th>Expenditure rule</th>
<th>Revenue rule</th>
<th>Budget balance rule</th>
<th>Debt rule</th>
<th>Key elements of fiscal rules</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hong Kong, China</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td>The budget should always display an operating surplus, i.e. an excess recurrent revenue over recurrent expenditure.</td>
</tr>
<tr>
<td>India</td>
<td>Yes*</td>
<td></td>
<td></td>
<td></td>
<td>Originally the target was to reduce the fiscal deficit to 3 percent of GDP by 2008. The escape clause in the fiscal rule law (FRBMA) allows the government not to comply with the targets in exceptional circumstances &quot;as the central government may specify.&quot;</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
<td>DR (since 2004): Total central and local government debt should not exceed 60 percent of GDP. BBR: The consolidated national and local government budget deficit is limited to 3 percent of GDP in any given year.</td>
</tr>
<tr>
<td>Japan</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
<td>ER: The Fiscal Management Strategy in effect since 22 June 2010, introduced a Medium-term Fiscal Framework, including an &quot;Overall Expenditure Limit&quot; (the amount of the General Account Expenditure, excluding debt repayment and interest payment, should not exceed that of the previous fiscal year). BBR: The Fiscal Management Strategy introduced in 2010 (with effect of 2011) a pay-as-you go rule, which implies that any measure that involves increases in expenditure or decreases in revenue need to be compensated by permanent reductions in expenditures or permanent revenue-raising measures.</td>
</tr>
</tbody>
</table>

Note: *Implemented by Indian Government until 2008.

V-3. Some Examples of Social Protection Reform and Expansion

In the mid-1990s, Kazakhstan reformed its pension system, jettisoning the Soviet-era pay-as-you-go system of defined benefits, and adopting a fully-funded, defined-contribution system. Beginning in January 2014, Kazakhstan began raising women’s retirement age from 58 to 63 over 10 years (the retirement age for men is currently higher). Beginning in 2012, Armenia also shifted to a fully-funded pension system. It should be noted that the tension between ‘sustainability’ and ‘adequacy’ of pensions that plays out in many countries, is also doing so in former Soviet republics. As noted by Vlachantoni and Falkingham (2013), for individuals qualifying for a contributory pension in Armenia, Kazakhstan, the Kyrgyz Republic and Tajikistan, the average level of benefits is just above the subsistence minimum. For those on a social pension (i.e., a social assistance grant made to elderly persons), benefits are insufficient to lift them above the minimum.

Kim and Hendricks (ADB 2008:1) note that “…As part of an effort to control escalating civil service pension costs, the Government of India closed its defined benefit scheme (DBS) for pensions to new entrants on 1 January 2014. Civil employees hired on that day or after were and will be employed in a defined contribution scheme, the New Pension Scheme (NPS). Under this new scheme, the government and the civil servant each contribute 10% of the employee’s basic pay to a retirement fund, which is invested. At retirement, the balance of the employee’s retirement account, consisting of 20% of wages and all interest that accrued

Table 8. Role of debt management offices in emerging Asia

<table>
<thead>
<tr>
<th>Country</th>
<th>Objectives</th>
</tr>
</thead>
</table>
| Indonesia | 1. Manage government debt portfolio in an effective, transparent and accountable manner  
  2. Control debt issuance and procurement by maintain a borrowing capacity that supports fiscal sustainability  
  3. Establish development financing independence by prioritizing domestic financing sources and developing an efficient and stable domestic market  
  4. Promote international cooperation in obtaining alternative financing sources as well as supporting regional financial market stability |
| Thailand | 1. Manage public debt to achieve low costs subject to acceptable risks  
  2. Develop the domestic bond market to be one of the three main pillars of the financial market  
  3. Evaluate and mobilize feasible funds to finance government’s infrastructure products  
  4. Modernize technology to support PDMO’s operations |


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during the employee’s civil service career, is available to support the employee. The Government has encouraged states to follow its lead by closing their traditional DBSs to new entrants and by adopting defined contribution schemes like the NPS.”

VI. Conclusions

Fiscal sustainability conditions in Asia excluding Japan are generally benign—among major economies, only India and Singapore have a gross government debt-to-GDP ratio above 60%. Fiscal stability conditions are also well-behaved, due to a combination of negative IRGD and primary surpluses or small deficits. However, future developments may undermine this rosy picture for a number of reasons. Perhaps most importantly, some economies, notably the Asian NIEs and (somewhat later) the PRC and Thailand, have rapidly aging populations and will likely face rising social protection spending—particularly old-age-related spending such as pensions and healthcare benefits—that can threaten fiscal sustainability.

Some economies, including the PRC, have large contingent liabilities which could translate into future large increases in government debt. Some economies, including the PRC, India, Indonesia, Thailand and Viet Nam, have high levels of financial repression, which has contributed to reducing government debt burdens. But as financial markets are liberalized, further develop, and become more open, such policies may not be sustainable in the future. Finally, some economies, most prominently the PRC, have very high bank holdings of government debt, which increases the risk of a sovereign debt and banking crisis.

The level of social protection expenditures in most emerging Asian economies is low, less than 10% of GDP, and we regard these levels as inadequate. First, the average level for European economies is much higher, around 29% of GDP, and even the lowest—for Latvia—is 15% of GDP. Second, coverage ratios for social insurance programs in emerging Asia are generally quite low, with almost all economies showing coverage ratios less than 40%, and many having coverage ratios below 25%. Interestingly, for per capita GDP levels below $10,000, there is only a weak correlation between income and the level of social insurance coverage, which suggests that many low-income countries can achieve higher levels of social protection than they do currently.

This paper recommends that emerging Asian economies aim for continued increases in social protection spending to: a) reduce social vulnerability and risk; b) develop human capital; and c) advance inclusive growth. National plans and international declarations and commitments point to continued growth of social protection systems in Asia. We also encourage greater social protection expenditures on old-age persons and women through fiscally sustainable systems.

The evidence shows that spending on social welfare as a percent of GDP is likely to rise substantially in line with higher per capita incomes (above $10,000) and old-age dependency ratios. We have estimated a model of the ratio of social insurance expenditures to GDP as a function of per capita GDP and the old-age dependency ratio. We used the model to project
the social insurance expenditures ratio in 2030, and found that the PRC, Japan, Republic of Korea, Singapore and Thailand face large potential increases in their shares of social insurance expenditures in GDP by 5-7 percentage points as a result of their rapid population aging and rising incomes. Hong Kong, China and Taipei, China are likely to face increases of similar magnitudes. These results imply that the economies facing population aging will have to make substantial efforts to secure greater fiscal resources and increase the efficiency of their programs to fund these increasing demands.

However, we believe that countries have the capacity to overcome these challenges and provide adequate social protection coverage for their populations. Risks to medium-term fiscal sustainability can be reduced by timely adoption of various measures, including those directed specifically at social insurance programs and those more generally aimed at improving fiscal management.

In response to pressures from population aging, economies need to contain social protection program costs and increase efficiency through a number of approaches, including: enforcement of premium payment obligations and increases in such premiums to provide adequate funding; implementing means testing for benefits; shifting from defined benefit plans to defined contribution plans for pension systems; raising retirement ages; introducing co-payments for health insurance; assessing the effectiveness of their programs and reducing waste wherever possible (especially in health insurance programs); and increasing use of ICT.

In addition, governments need to continue to make wider efforts to expand fiscal space by cutting unproductive spending and raising revenues. A number of policies can be adopted to improve management of expenditures, revenues and government debt. Governments should establish rational frameworks for allocating expenditures, aim to achieve more balanced sources of direct and indirect revenue, strengthen tax collection, and manage government debt in a prudent way. Beyond this, governments may adopt fiscal rules and frameworks aimed at expenditure, revenue or deficit levels, and establish a debt management office. Finally, strengthening of fiscal surveillance by regional bodies such as AMRO can provide additional pressure for sustainable fiscal policies.

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